PROFESSIONAL ENGINEER

Official Publication of American Association of Engineers

WINTER ISSUE

Illinois U Library

Engineer Unions from the Reviewing Stand

Impact of Unions Upon Unity

Unity Among Bargaining Agents of Professional Employees

Attitude toward Technical and Professional Societies

l. 41 No. 3

Now Out—

REVISED NEW 1956 EDITION

MINES REGISTER

**Over 90% of the Reports of Active Mines
Show Important Changes**

The 1956 edition contains detailed reports on more than 5,000 active operating and producing companies in the Western Hemisphere and in other parts of the world, also listings of more than 22,000 inactive mining companies.

The information contained in MINES REGISTER is the result of intensive research and investigation.

Authoritative—Accurate—Timely

●

Mine Reports Covering:

COBALT
COPPER
GOLD
LEAD
NICKEL
QUICKSILVER
SILVER
TUNGSTEN
URANIUM
ZINC

and other Non-Ferrous Metals

Price $25

***THE ONLY REFERENCE WORK OF
ITS KIND FOR OVER 50 YEARS***

For Sale By:

A. A. E. BOOK DEPT.
8 S. Michigan Ave., Chicago 3, Ill.

Professional Engineer

"THE VOICE OF THE ENGINEER"

★

Published Four Times a Year at Mount Morris, Illinois

The American Association of Engineers
8 South Michigan Avenue, Chicago 3, Ill.

me 41 October 31, 1956 Number 3

Board of Directors
1954-1955

President
PATRICK J. LUCEY
16 S. LaGrange Road,
LaGrange, Illinois

Vice President
GEORGE HAVAS
1924 Broadway
Oakland 12, Calif.

MUND J. FITZMAURICE
318 Rodman Ave.,
Haddonfield, N.J.

VERETT C. SHUMAN
228 Innisbrook Road
Toledo 6, Ohio

W. H. SCALES
550 Canal Building
New Orleans, La.

IC H. HOUSHOLDER
1330 E. Brill Ave.
Phoenix, Arizona

. WALTER R. JEFFREY
9568 S. Prospect
Chicago 43, Illinois

Secretary-Treasurer
M. E. McIVER
Chicago, Ill.

Table of Contents

Page

Thanks be to the Stout-Hearted Members of A.A.E. 5
An Editorial

Engineer Unions from the Reviewing Stand 6
A Survey for the Information of the Profession by
H. A. Wagner, M. E. McIver and M. P. McGirr

Part I

Impact of Unions upon Unity 7

Disunity Within Units 8
The Free Rider
Compulsory Membership
Facts and Figures
Serious Side of Membership

Unity Among the Many Bargaining Agents of Professional Employees 13

Sounding Board Groups 15

Attitude Toward Technical and Professional Societies ... 16

The ESA—Aims and Achievements 18

ESA and the Trade Unions 20
Overlapping Work Areas
Decertification of Professional Employee Groups
Pure Professionalism vs the Board

Future of ESA 23
After the Arma Strike
Resolutions Presented to ESA Convention 1956
ESA Seen from Without
ESA Convention
ESA Constitutional Changes
Snobbery as a Principle
(This Survey to be continued in Vol. 41, No. 4)

Books for Engineers 29

M. E. McIVER, Editor

n Association of Engineers assumes no responsibility for statements made or opinions expressed by contributors of articles published in Professional Engineer.

Class Mail Privileges authorized at Mount Morris, Illinois. Subscription price, U.S., a year; Canada, $1.50; foreign, $2.00. Printed in U.S.A.

New Wiley Books . . .

IRRIGATION ENGINEERING, Vol. II

By IVAN E. HOUK, *Consulting Engineer, Denver, Colo.* Only up-to-date treatment available of projects, conduits, and structures. Stresses practical requirements for planning and constructing irrigation projects. *1956. 531 pages. $14.00.*

ROCKET PROPULSION ELEMENTS

An Introduction to the Engineering of Rockets, 2nd Ed.

By GEORGE P. SUTTON, *North American Aviation, Inc.* The second edition includes a broader treatment of the basic elements and the technical problems and a more comprehensive and complete description of the physical mechanisms, applications, and designs of rocket propulsion systems. *1956. 483 pages. $10.25.*

AMERICAN CIVIL ENGINEERING PRACTICE

Vols. I, II, III

Editor-in-Chief: ROBERT W. ABBETT, *Tippetts-Abbett-McCarthy-Stratton, Engineers.* A three-volume work replacing Merriman's *American Civil Engineers' Handbook.* Presents fundamental principles, procedures, and data of modern civil engineering in concise form. *In preparation.*

ELEMENTS OF GASDYNAMICS

By H. W. LIEPMANN *and* A. ROSHKO, *both of the California Institute of Technology.* Gives a sound physical background for work in modern gasdynamics and high speed aerodynamics. Fundamentals stressed. A publication in the Galcit Aeronautical Series, edited by Theodore von Kármán & C. B. Millikan. *1957. Approx. 406 pages. Prob. $8.50.*

CIRCUIT THEORY AND DESIGN

By JOHN L. STEWART, *California Institute of Technology.* Gathers together much data on vacuum-tube and feedback systems from the point of view of modern network theory. *1956. 480 pages. $9.50.*

THE ART AND SCIENCE OF PROTECTIVE RELAYING

By C. RUSSELL MASON, *General Electric Co.* Deals with relay protection of all elements of a power system against all normal operating conditions, as practiced in North America. One of a series written by General Electric authors for the advancement of engineering practice. *1956. 410 pages. $12.00.*

SEWAGE TREATMENT, 2nd Ed.

By KARL IMHOFF, *Consulting Engineer, Essen, Germany; and* GORDON MASKEW FAIR, *Harvard University.* Presents simply and concisely the requirements and practices of modern sewage treatment. Completely rewritten, this edition covers recent devlopments in the field. *1956. Approx. 346 pages. $7.50.*

For Sale By:

A.A.E. Book Dept.

8 South Michigan Ave. Chicago 3, Ill.

Thanks be to the Stout Hearted

Members of A. A. E.

MERICANS have great capacity for thankfulness in two situations. They can be buoyantly thankful for blessings which are both per- al and material. They can be fervently grateful for collective benefits ch are spectacular or which arouse public awareness because they are ious. On our national Thanksgiving Day, many Americans, therefore, thankful for take-home pay larger than in some other Thanksgiving iod, for improvement in health after a serious illness, for notable felicity hin the family circle. All Americans will be prayerfully conscious of and nkful for our precarious peace. The very instability of peace in the ld makes people conscious of this, the greatest of all blessings which y now enjoy.

It is understandable and wholesome that Thanksgiving Day should ind people of these benefits and cause an outpouring of gratitude for sonal and national blessings. It is primarily a religious holiday in which ple, individually and collectively, recognize the source of all good things render thanks to God for them.

It is still not inappropriate to extend that awareness to include appre- ion of people and organizations which have significantly contributed he welfare of their fellow men. The staff at headquarters of American ociation of Engineers nominates for such appreciation the long-standing bers of the Association who have for ten, fifteen, twenty or more years wervingly supported the organization and its avowed aims.

These are the men who think of engineering as one profession, not erachy, and an association of engineers as an organization in which y man is his brother's keeper. They belong to American Association Engineers in order to serve their profession, not to win personal gain prestige. It is their stout-hearted support which enables the staff of erican Association of Engineers to do the chores which need to be done which are unrecognized by other groups, sensitive only to the needs desires of their own members. Seven years of research, for example, luced the Association's book entitled, "Technologists' Stake in the gner Act," to clarify the impact of the Wagner Act on employee engi- s and buttress a campaign for amendment of the statute, although only gligible percentage of American Association of Engineers members affected by the Act; then some time later our survey on "Tech- gists' Stake in the Taft Hartley Act." Another ten years of Study of practical effects of the Taft Hartley Act on engineers who have organ- under the measure lies back of the two-part story which begins in this of Professional Engineer. In those ten years, material which has ared in the houseorgans of engineer-unions has been accumulated, yzed, and finally organized for publication. This has been unspectacular work, sometime tedious, and rewarding to the Association only beca of its conviction that the job needed doing. In whatever degree "Enginee Unions from the Reviewing Stand" serves its purpose, engineers and th organizations owe thanks to the staunch members of American Assoc tion of Engineers whose loyal support through the years not only finan the organization's work but heartens the staff of the association.

Engineer Unions from the Reviewing Stan

Prepared by the authors of "Technologists' Stake in the Wagner Act" and "Technologists' Stake in the Taft-Hartley Act," Herman A. Wagner, Past President, American Association of Engineers, M. E. McIver, National Secretary, American Association of Engineers, and M. P. McGirr, Research Editor, PROFESSIONAL ENGINEER. *Although it has been well known since 1918 that the credo of the A.A.E. is that unionism has no place in the Engineering Profession, nevertheless, we feel it imperative that Engineers keep well informed on the subject.*

DURING the thirties, American Association of Engineers used all its resources in a campaign to induce the engineering profession to recognize the trend toward regimentation and the upsurge of unionism among professional engineers.[1] Pointing to its own experiments in collective bargaining for profesisonal engineers immediately after World War I, in which it secured substantial increases in compensation for various groups (technical employees of the railroads, employees of several state highway departments, and others) the Association urged that all the societies aid in developing a true "unity organization" which could set up standards of classification and compensation and which also could serve as the representative of all professional engineers. In such an organization, it was urged, engineering as one profession would serve employee-engineers better than could any unionistic organization in which employer and employee engineers were drawn up in hostile ranks.

When it became apparent, soon after passage of the Wagner Labor Relations Act, that no such action would be taken and that engineers were being included involuntarily in heterogeneous bargaining units through unfortunate definition of "appropriate bargaining units" mad the NLRB, American Association of gineers concentrated its efforts on most urgent problem. After seven y of study of the Wagner Act in opera (during which its findings were m available to engineers affected by the through publication in PROFESSIONAL GINEER the Association consolidated th reports in a handbook called "Tech ogists' Stake in the Wagner A The book served two purposes; first, it formed professional employees of t rights under the Wagner Act and gested strategy for guarding their "freedom of association"; and, secon arrayed the best arguments for am ment of the Wagner Act to protect fessional employees from involuntary clusion in heterogeneous bargaining u

With the passage of the Taft-Har Act, the Association published, as a plement to *Technologists' Stake in*

---

[1] See History of American Associatio Engineers published serially in Profess Engineer (Dec. 1933; April, 1934; July, 1 Oct. 1934). See also Get in Step series, fessional Engineer (Dec., 1934; April, 1 Sept. 1935; Oct., 1935).

[2] Published by A.A.E. Price including Su on "Technologists' Stake in the Taft-Ha Act" $3.00.

mer Act, a comprehensive analysis of new law.[3] warning engineers that should take advantage of the protec- it afforded while the statute was rela- y plastic, and before unfavorable ad- strative interpretations and practices ened into precedents or became fixed he result of appeals to the Federal ts. With this service, the Association inated its aggressive action in regard abor relations legislation and became an interested observer of what there- r transpired.

uring the intervening years, a large me of material on the subject of un- and union activities of professional neers has been accumulated and stud- t Association headquarters. American ociation of Engineers is interested, in tached way, in these developments, it recognizes no special responsibility ng therefrom. Like all the king's es and all the king's men, it cannot Humpty Dumpty together again. The ociation has no feeling of guilt, be- e it was never remiss during the 10 s in which there was still a chance to engineering one profession. It lived the obligations imposed by the Asso- on's stated aims; to promote the so- and economic welfare of the engineer to promote unity in the profession. aps an impersonal summation of de- ments since passage of the Taft- ley Act, strictly factual, is the best ibution the Association can make to- That is the spirit in which this e has been written.

First Installment

pact of Unions Upon Unity

where in the developments of the last ears is there any evidence that "un- have promoted "unity"—even in the ent of the profession which is the- ally susceptible to such "unification." oups and alignments there are many, ey form no discernible pattern that ges solidarity among professional yees. Certainly no progress has been made toward a unified profession. Although a few groups cooperate loosely, some of the entities are definitely hostile to others. The relations, for example, of engineer unions (independent) and some affiliates of major labor unions which represent professional engineers are far from cordial.

In California this antagonism has come into the open several times. One instance is reported in the News Letter of the Engineers and Scientists of California (ESC) formerly known as the San Francisco Area Group of Professional Engineering Employees. The April-May 1956 issue reprints a story from "Engineering News-Record" with a brief preface as follows:

"The following paragraphs, reprinted from the April issue of Engineering News Record, are of interest to all members. We do not yet know the final decision in this case.

"National Labor Relations Board trial examiner Herman Marx has recommended that Local 3 of the Operating Engineers and the Northern and Central California Chapters of AGC be ordered to void the subcontractor and union security clauses in their master agreement.

"The case arose out of coercion charges against the union and AGC chapters by St. Maurice, Helmkamp and Musser, a Marysville, California field engineering firm. It's another episode in the northern California jurisdictional battle between the Operating Engineers and Engineers and Scientists of America (ENR June 23, 1955, p. 80).

"The subcontractor clause—substantially the same for the last 10 years—makes the master agreement applicable to subcontractors working for AGC members who are parties to the agreement. This means that a sub's employees would have to join the Operating Engineers, because the union security clause requires membership in the union for employees coming within the master agreement.

"Musser—a member of Western Association of Engineers, Architects and Surveyors, which has an agreement with ESA (the NLRB certified representative)—went onto a construction project at Travis Air Force Base as a sub-contractor for a joint venture of AGC members. The Operating Engineers claiming violation of the subcontractor clause, called a strike and Musser's employees were withdrawn from the job for three months—reportedly at the request of

---

blished in "Professional Engineer," Vol. . 4 (Dec. 1947) and Vol. 33 Nos. 1 & 2 and June, 1948).

AGC. The employees were reinstated after the NLRB stopped the strike.

"Through the master agreement, said the trial examiner, the union and AGC have "established terms and conditions of employment for employees—who are not properly within the reach of the bargaining unit and whom the union has no lawful authority to represent." He noted that the natural tendency of the subcontractor clause is to coerce technical engineers into leaving ESA, a labor organization they have freely chosen to represent them, and to join the Operating Engineers, a union not of their choice. Such coercion, he concluded, is an unfair labor practice unlawfully interfering in the free exercise of the rights guaranteed by the Taft-Hartley Act.

"The AGC—which can effectively prevent technical engineers employed by Western Association members from performing field survey work at more than 90% of the projects undertaken by general contractors in the 46-county area, if the practice is permitted—claimed the effect of the subcontractor clause was merely to make employees of subcontractors on jobs within the agreement a part of the bargaining unit covered by the agreement. But Marx said results of the NLRB election "preclude acceptance of the representation and unit claims of the AGC." He declared that AGC members had in effect agreed to award subcontracts for field survey work to Western Association members only if the subs agreed to violate the Taft-Hartley Act."

Engineer unions organized to exercise all the privileges conferred by the Taft-Hartley Act are usually guarded in their comments on engineer groups which have used the Act primarily to avoid identification with aggressive unions. Occasionally the surface calm is ruffled by such an incident as is recounted in the following editorial reproduced in *Conference Notes* (November 1954) published by the Conference of Professional Technical Personnel, Inc. of the Bell Telephone Laboratories:

THE "ILLEGITIMATE" CONFERENCE

Recently, speaking at a dinner for new engineering employees of the Sperry Gyroscope Company, Mr. Arthur Marin, national chairman of the Council of Western Electric Technical Employees, had this to say about sounding board organizations:

> "A sounding board group has been defined as a metaphysical debating society and is usually characterized by the members of ESA as an illegitimate organization, in the sense that they have not received the sanction of the law of the land to discuss affairs with management . . . the two best known sounding board groups are the Gene
> Electric Engineers Association and the C
> ference of Professional and (sic!) Techni
> Personnel of the Bell Telephone Laborator
> . . .*

"It is natural that the ESA should thi
of their form of organization as the b
one. It is pure wishful thinking, howev
to believe it is the right one. Moreov
the implication that sounding board
ganizations are somehow operating il
gally is ridiculously false. We ha
ignored similar charges made in the p
against sounding board organizations
general; this time we have been m
tioned by name; further silence mi
appear like an admission of guilt.

"When Mr. Marin speaks of the 'sa
tion of the law of the land to disc
affairs with management' he implies
an organization need be certified by
NLRB as the bargaining agent fo
group of employees in order to deal
management. This is simply not so.
true that the NLRB will not force
agement to bargain collectively wit
non-certified organization; this does
make such an organization illega
'illegitimate.'

"It is also true that it is possible f
sounding board organization to engag
what the law characterizes as unfair la
practices. This is equally true of ce
fied unions. A particular practice is l
or illegal without regard to the certi
tion status of the organization engagin
it. To the best of our knowledge,
CONFERENCE does not engage i
single unfair labor practice.

"These are the simple facts. There
too many problems facing the profes
as a whole to waste time on name call
We welcome the discussion of differe
of methods or organization; we bel
misstatement of facts, however glib
be beneath the dignity of an organiza
like the ESA which prides itself on b
'professional.'"

DISUNITY WITHIN UNITS

Statutory impediments preclude u
even in the bargaining units restricte
professional employees and represente
engineer unions; "supervisory employ
are excluded from such units and
definition of "supervisors" in the T

---

* *The Sperry Engineer,* September 1954

tley Act is at the same time sweeping
particularized. Thus professional
loyees whose management duties are
inal are excluded from representation
labor organizations which represent
r subordinates. They are consigned to
o-man's-land, identified neither with
r nor management. The old channels
ugh which they could take their griev-
s and aspirations to top officials are
ed in the ponderous organization of
t companies, and the new channels
ass them. Several of the labor organ-
ions made up of professional em-
ees have recognized their plight and
npioned revision of the Taft-Hartley
to correct it and to give the union
tional strength and unity.[1]

onversely, some of the labor organ-
ions of and for professional employees
protested sharply the inclusion in
units of non-professional employees
aded by the employer and given spe-
though limited training to enable
to take over jobs of a type hereto-
restricted to employees with real pro-
onal training and experience. The
se for these promotions, of course, is
shortage of engineers. For example,
ontract negotiations and in applica-
of terms of the contract to specific
, the Council of Western Electric
nical Employees and the company
r on classification of personnel as
fessional" and "non-professional."
e differences are reported in the
ncil Compass" published by the
cil of Western Electric Technical
loyees, March, 1955 issue.

> Engineering A Profession? The West-
> lectric Company says "yes," but con-
> t with the needs of the business. The
> nal Council says "Yes" irrespective of
> eeds of the business . . .
>
> Council's position is simple. The
> ications of a beginner engineer cannot
> sistent with the needs of the business,
> ust be consistent with Section 2(12)
> e Taft-Hartley Act and the NLRB
> n. To this Council premise the Com-
> replies that it is unthinkable that the
> any can be limited on such fundamental management rights as determining qualifications for beginner engineers. If the Company decides, in its judgment, that a floor sweeper is qualified as a professional—irrespective of the Section 2(12) definition—he may be transferred into the Unit as a Senior Engineer. In this manner, the Company can adroitly corrupt the economic and professional status of engineering employees. The Council contends that engineering is not a punching bag to be used consistent with multiple supervisory mismanagement. . . .

The Company sees nothing wrong in what the Council characterizes as fraudulent usage of professional titles for unqualified employees. It, therefore, has transferred any number of unqualified individuals, with the belief that these individuals can be trained and carried piggyback by the more experienced and competent engineers.[2]

Perhaps the greatest deterrent to unity within the bargaining unit is the reluctance of large numbers of members of the unit to join the labor organization which represents them or pay dues to it in acknowledgment of services rendered (and perhaps of substantial benefits attributable to activities of the labor organization). This is not new. Unions in the days of the Wagner Act complained bitterly that, after winning an NLRB election to represent a group, they often found it impossible to sign up members equal in number to the affirmative votes cast in the election to determine the union's right to represent employees in the unit. The "Council Compass," in November 1947, "adapted" a story originally printed in "Technical America,"*[3] FAECT-CIO monthly magazine, which wryly recognizes this internal weakness of engineer unions. Here is the story:

The Free Rider

Once upon a time there was an engineer who always stopped at the postoffice to fill his fountain pen. He was never so happy as when he found a transfer at a bus stop. He was always carting home piece

---

gineers and Scientists of America was in-
ntal in introducing legislation in Congress
nd the Taft-Hartley Act by revision of
finition of "supervisor" and thereby per-
ployees with only nominal management
ns to participate in bargaining as mem-
professional units.

[2] Unfair labor practice charges and court action for damages filed by the Union grew out of this controversy and are discussed elsewhere in this issue.

[3] Business Week (August 1954) says that FAECT (Federated Architects, Engineers, Chemists and Technicians), organized in 1934, had a "pro-communist orientation." It affiliated with CIO in the 30's, became a part of UOPWA-CIO which was later expelled from CIO on charges of being communist dominated.

parts from the shop in the hope that some day they'd come to some use.

He had a ball of tinfoil as big as a bowling ball. Once the conductor forgot to punch his commutation ticket and he was happy for three days afterward. He'd get on the first car of the train and walk through until he found his favorite newspaper on a seat.

He had a specially built pocket for emptying sugar bowls in the cafeteria. The other pocket was full of toothpicks. He was the kind who could hang around the cigar counter until someone bought a two-for-fifteen cigar so that he could offer to pay the other seven cents and get one for himself. He had a callous on his right forefinger from feeling the coin return slots in 'phone booths.

Every Sunday night he drove down the line in his car, stopping at all the gasoline stations closed for the night, to empty the hoses into his gas tank. He nearly drove his children crazy every Christmas Eve waiting until the last minute to buy the last Christmas tree at a cut price, or to get it free of charge.

And then our parsimonious friend fell on hard times. The company stopped stocking leads for his mechanical pencil. String was hard to find; he hadn't been invited out to dinner for weeks and weeks and his neighbor came and took back his borrowed lawnmower.

His streak of bad luck got him down. He got to thinking about it one night and couldn't sleep. Besides the water was dripping from the faucet. He arrived at the office next morning in a blue funk. And then something happened—the skies cleared and birds began to sing—the wonderful news—The Council had negotiated a general increase and he didn't even belong to it!

Humor is not the keynote of discussions of "free riders" in the house organs of present day labor organizations of professional employees. This discussion quoted from the July, 1952 issue of *"The White Collar Unionist,"* published by the National Federation of Salaried Unions is typical:

> The fact that a union must represent both members and non-members in bargaining with the employer is a strong, logical argument in favor of union security in one form or another. When a union is certified by the National Labor Relations Board, it becomes the bargaining agent of all employees in the unit, not just those employees who have joined the union. Thereafter, every improvment it negotiates in wages, hours and working conditions applies to non-members as well as members.
>
> One form of union security which is relatively new, and about which very little is known by the average union member and the general public, is the "Agency Shop." Under this form of union security employees are not required to *join* the union, but they
> must *pay dues* to the union for servi
> rendered—services which benefit them
> much as union members.
>
> Most union leaders prefer a strict un
> shop, which requires employees to join
> union, rather than an agency shop. An e
> torial in a recent issue of a labor pa
> stated that an agency shop does not ma
> for the kind of unionism that would g
> strength to the movement as a whole. T
> editorial went on to say that the un
> would not accept money from "cheap fr
> riders." Those union leaders who ha
> agreed to an agency shop apparently f
> that the union should be compensated
> non-members for benefits received. . . .
>
> Certainly no organization other than
> organized for strictly charitable purpo
> should be required to provide services f
> of charge. This is exactly what unions
> when they have to operate without a un
> shop, or, at least, an agency shop.

* * * *

Although all the engineering unions
sent the inert (or hostile) non-memb
in their bargaining units, some of t
accept the situation philosophically a
condition imposed by the Taft-Ha
Act which they fully understood w
they sought the right to represent a
gaining unit. There is a wide rang
opinion on this subject within a si
union. The Association of Professi
Engineering Personnel,—APEP—acc
ited by the NLRB as sole bargai
agent for RCA Victor Engineers,
forth the pros and cons of the union s
clause in letters from its members.
Executive Board of APEP, howe
strongly opposed a union shop cont
and the president said:[1]

> We feel that every engineer should h
> the right to make his own decision a
> whether he wishes to belong to an engin
> ing union, or not. At any time the majo
> of the engineers at RCA Victor do not
> to belong to APEP, we feel that AP
> should cease to exist. No one should
> forced to belong to the Association in o
> to hold a job. We do not have the sens
> weakness and lack of security that l
> some unions to feel they must be prote
> from their membership.

Compulsory Membership

In contrast with APEP, Joseph Am
then President of Engineers and Scien
of America, (ESA) the largest affilia
of unions made up predominantly of e
neers and scientists, is quoted by *E*

---

[1] Quoted from APEP publication, *The*
ponent.

ing News-Record (March 18, 1954) ollows:

> me member units of ESA have the n shop (where an employee is required in the union within 30 days to hold his That is that prerogative of the indi- al unit. We are not opposed to compul- membership.

nis statement was included in a report meeting of the Washington, D.C. on of ASCE in which Mr. E. L. ndler of ASCE and Mr. Amann, esenting ESA, debated the merits of nism.

ost of the engineering unions are er restrained in championing closed , union shop, or even agency shop for r organizations which represent pro- onal employees, but they are much e outspoken in their championship of on security" for the major labor ns. In the July, 1952 issue of the *te Collar Unionist* (National Federa- of Salaried Unions) there is a strong san defense of the union's right to ct dues from all workers it repre- .

> parently the big stumbling block in the of a settlement in the steel strike is the ence of the steelworkers' union on a shop agreement. This has caused the wheels of the steel industry to shed dile tears for the poor workers who l be forced to join the union. Their rn for the workers is strangely remi- it of that displayed by Congress, when, incredible stupidity, it presumed to more about what goes on in the er's mind than the workers themselves, passed the Taft-Hartley Act to save from such abuses as the union shop. quent events, which showed almost of the workers polled in favor of shops, indicated clearly that Congress action on an issue about which it was ignorant.
>
> at honest justification do the steel nies have for refusing the union shop steel workers? They already have shop contracts covering some of their yees represented by other units, so concern for the workers sounds phony. dly, one major steel company was to give the union an agency shop ie proposal was vetoed by the other nies. Whether the union would accept ead of a union shop is not known.

adlines in "The Regulator," March, issue (published by the Federation estinghouse Independent Salaried s) proclaim the "Right to Work are Immoral" and refer to "Right ork" as a "Phony Slogan." Under this caption in the January, 1955, issue, the Federation declares:

> The whole idea of "states rights" and the "right to work" under such laws, which conflict with federal laws, smell to high heaven, and these are phony slogans unworthy of the approval of clear thinking people. It is to be regretted that local chambers of commerce are usually behind the attempts to pass such smelly legislation. In fostering such laws, business organizations are double crossing their own faithful employees who, in many cases have been loyal union members for years.
>
> Is it any wonder that under such phony legislation the Communist issue remains an ever burning one? If organized business destroys or even weakens the present structure of organized labor, trade union members will have but two roads to follow—Facism or Communism— and we certainly never would advocate the former of these two.

In these highly emotional dissertations upon "union security" for the major labor unions, the professional unions betray their own feeling of frustration. These editorials, threatening doom to democracy unless unions are given "closed shop" or "union shop" contracts, originate in a desire for the same privileges for engineer unions although the spokesmen are inhibited in some degree from airing this desire. The spirit of these editorials seems more vicarious than altruistic.

On at least one occasion an engineer union had an opportunity to test the sentiment of a bargaining group in regard to compulsory membership in the bargaining agent chosen by a majority of the employees in the unit. This demonstration is reported in "The Sperry Engineer," May, 1954 issue, published by the Engineers Association (an NLRB Certified Union of Engineers and Technical Employees at the Sperry Gyroscope Co., affiliated with Engineers and Scientists of America) as follows:

> On Sunday, March 14, the Company and the Negotiating Committee reached an agreement which, after ratification by the membership that night, ended EA's two-week strike against the Company. Included in the agreement were:
>
> 1) A "maintenance of membership" clause, which required that all EA members must retain their membership as a condition of continuing employment. With the exception of two specific periods during which resignations were permitted, this meant that all EA members would remain members for the life of the Contract.
>
> 2) a "no-reprisal" clause which specified

> that the Union would not take reprisals against those who had betrayed their fellows, that the Company would not discriminate against those who had remained loyal to their own interests, and that Management would not take steps to encourage resignations from the Union during the so-called "escape periods."
>
> The Company has violated this agreement. The "escape period" lasted from Thursday, April 15 to Thursday, April, 29, inclusive. Examination of the 300 resignation letters received at the Union Office, for the date on which the letters were written shows the following:
>
> 1) In the first two days, 90 letters were written.
>
> 2) Over the first weekend, 4 letters were written.
>
> 3) During the first full week, 83 letters were written (daily average of 16.6 for five days.)
>
> 4) Over the second weekend, 4 letters were written.
>
> 5) During the last week, 119 letters were written (daily average of 29.75 for four days).
>
> The first conclusion we can draw is that there were very few members who resigned when away from their suprvisors' influence (on weekends). This conclusion is emphasized by the fact that many of these letters were typed on official Company stationery, and the postage for 37 of them was paid by the Company, through its stamping machines. . . .
>
> Disregarding fair play and a solemn agreement, Management proceeded in this attempt to make EA impotent. The attempt did some harm, causing an increase in the number of desertions. But it succeeded only in wounding the Union, not emasculating it. The process of building for the future has begun, and experiences such as these gained during and after the strike, will be invaluable to EA in its further dealings with the Company.

Under the caption of "Flight from Reality" the president of the Engineers Association, Everett Taft, discussed these resignatitons in his column in the same issue of "The Sperry Engineer," as follows:

> The Union has no other enemy who can hurt it like the resigning member. . . . EA has just suffered an even three hundred such resignations during the contract "escape period." Figuratively speaking, every one of them was a brickbat aimed at the Union's head, and, to the extent that the President identifies himself with his organization, I am a target, too. I am, however, much more concerned with the processes going on inside the "escapee's" head than I am with the bumps which may be raised on mine.
>
> I like to think that, at least in a vague way, every person who joins the EA understands that he thereby makes it his organization, that he acquires something new
> additional to the assets previously posse
> He acquires a voice in a self-govern
> which shares the rule of his industrial
>
> When the member resigns, he is no
> governed by the Union—except in s
> as his defection empowers the Compa
> dispossess the Union. He is attemptin
> bring about the elimination of an orga
> tion which exists solely for his benefit i
> hope that the Company, thus aggrand
> will treat him better.
>
> What kind of man is it who would v
> tarily surrender his only real barga
> position on such wishful thinking?
> Does he not really know, down in that
> light zone of consciousness, that such pr
> ential treatment as he might get fro
> Company would be in competition wit
> Union for his favor, and that it
> cease, if the Union were to disappear

Mr. Taft said that eleven of the
hundred "renegades" "thought well en
of their fellow workers to offer exp
tions with their resignations." The
divided into three groups, classifi
follows:

1) Those who "centered upon the
that it was the EA who had deviated
the path of righteousness and wa
longer worthy of support."

2) Three who asserted that "EA st
out to enhance the "Professional st
of its members and had deviated fro
chosen path."

3) A third category which "hits w
it hurts," saying essentially "I'll be
when you start accomplishing someth

Disunity within a bargaining un
most apparent in Mr. Taft's discu
of the attitude of "escapees." It is as
an example as can be found of the
ciples of men who no longer believe i
efficacy of labor organizations of pr
sional employees or their ability to "u
the profession even within the restr
scope of a single bargaining unit.
eleven of the letters were quoted in
Taft's article. One typical of each g
will be reproduced here:

> Type 1: "The aims and ethics of
> organization no longer meet with the s
> ards that, in my opinion, are a nece
> for an organization which is to success
> represent an engineering group.
>
> Type 2: The aims and ambitions of
> most active in the Association are n
> the best interests of the engineering p
> sion. I do not believe a trade union o
> type EA is becoming will do anythi
> improve the professional status of the
> neer. I am further convinced of the fu

ıttempting to extract such unprofessional ls as a union shop, seniority, union-tten job descriptions, etc., from a com-y that has demonstrated its reluctance to nt even those aims which would enhance professional status of its engineering sonnel, such as better vacations, improved ges, credit for authorship of reports, etc.

ype 3: In the past three years of our ociation, those who have known me have erstood that I have never been satisfied h the principles and distorted ideals of Association. I became active in hopes changing the fence-sitting, semi-union, ni-professional attitude of this organiza-, but frankly, I know now no such hope. n independent professional union com-nenting but not contained by the giant or unions is possible, but not while the sent mental attitude of membership and lership exists . . . I wish you well and e you may formulate a Union, but I don't eve it now.

* * * *

There is a sequel to this story in "Car-ale's Corner," "Sperry Engineer," e-July, 1956, in which Membership ector D. Carnovale explains why the ociation does not publicize its "mem-ship percentage"—i.e., quote the ratio veen its dues paying members and the l number of eligible employees in the gaining unit the Association repre-s.

Facts and Figures

D. Carnovale

he Company keeps coming out, from to time, with percentage figures for Association which are, to say the least, neous and inconclusive. The Company not have all the figures at all times thusly, they cannot possibly give such entages without a suitable explanation the data from which these percentages lerived.

e last figure given was somewhat under percent and the implication was that the "Great Walk" of two years ago. Association has never reached the 50% . Naturally the curiosity of many was sed as to the correctness of this figure allied statements. Perhaps I'd better right away that both statements and e are wrong. I think it is only fair to in that our percentage has been over for quite some time and at no time year, did it go below the 50% level.

ere are many non-members who look e Company's figures and when asked in the Association will tell you that we do not have even fifty percent, against their principles to join an ization which is in the minority. Gentle- to you I say, do not believe all that is before you so casually, without first ng for the facts. . . .

I strongly advise the members and non-members to look at the given figures with a grain of salt, for they mean very little. Strength does not come from percentage points, but rather from the quality of the persons therein. Enough said!

Minneapolis Federation of Honeywell Engineers, in its official publication the *Federation Reporter,* issue of June, 1956, indicates that it has problems similar to those of the Engineers Association at Sperry.

THE SERIOUS SIDE OF MEMBERSHIP

Last August the scope stood at 1681 and the Federation had 975 members. Nine months later, on May 1, 1956, the scope had risen to 1804, and the membership had dropped to 852.

We signed up 119 new members during this period while losing 242 old members! Here is where they went: 83 left Honeywell; 90 remained in the scope but abandoned their union; 69 were removed from the scope by the Company, 38 into supervision, 31 into other jobs.

Our recruiting efforts have not been a match for the combined effects of turnover, Company expansion, and internal defections.

Unless every member does his part to reverse this trend, the Fedration is doomed as an effective organization.

Continuation of low membership percentage will surely have an adverse effect on the welfare of all Honeywell technical employees. It will affect the

—Company attitude in regard to negotiations, grievances, and consultation with Federal spokesmen

—Federation's treasury which, if it dwindles, will require curtailment of research and services to the members

—Morale of those now contributing time and leadership, and the supply of ever-necessary volunteers.

On the other hand, a rising Federation membership percentage will improve our public position in the following areas:

—Company agents will deal in better faith when there is less reason to hope for eventual decertification of the bargaining agent

—Our organizing efforts in other companies will be enhanced

—All other unions will tender greater respect and cooperation

—Better new charter terms will be obtained when and if we seek a new affiliation

—A favorable effect on student engineers is certain

—We will better impress government agencies and legislations

UNITY AMONG THE MANY BARGAINING AGENTS OF PROFESSIONAL EMPLOYEES

Several of the "labor organizatitons" formed in the period when the Wagner

Act governed hoped to become the nucleus of a national organization in which unions of "white collar" and professional workers would be either federated or integrated. The Westinghouse group still is known as the National Federation of Salaried Unions and on every issue of its publication The White Collar Unionist uses the slogan "A National White-Color Union for All White Collar Workers.[1] The Association of Industrial Scientists at Shell Oil Company drafted a Constitution which might be adopted by affiliates if later developments justified its expansion into a national bargaining agency. The most aggressive aspirant to this role is the organization activated on December 31, 1952, called Engineers and Scientists of America.

Engineers and Scientists of America, according to a detailed report in "Engineering News Record" (at the time the constitution of the organization was ratified by the eight organizations which were required under the constitution to set up ESA as a going concern) listed the following organizations as charter members: Engineers Association of Sperry Gyroscope; Minneapolis Federation of Honeywell Engineers;[2] Engineers Guild of Oregon; Seattle Professional Engineering Employees Association; Engineers and Architects Association, Los Angeles, Burbank, and San Diego, Calif.; Engineers Association of Arma;[3] San Francisco Area Group of Professional Employees (now known as Engineers and Scientists of California); and the Association of Professional Engineering Personnel, RCA Victor. As expected at the time of the ENR report, the Council of Western Electric Technical Employees, the first such organization to sign a nation-wide collective bargaining contract in the engi-
neering field, has affiliated with ES
Surprisingly, however, the ESA has n
absorbed these organizations which he
the spotlight in Wagner Act day
These three, Research and Engineerin
Professional Employees Associati
(Standard Oil of Indiana employees
Association of Industrial Scientists (She
Development Company, Emeryville, Calif
and the Society of Professional Chemis
& Engineers (Humble Oil Co., Texas
were most aggressive in asserting t
right of professional employees to o
ganize under the Wagner Act in hom
geneous (rather than heterogeneous) ba
gaining units to determine the issue

---

[1] A new organization, the Westinghouse Engineers Association, held its first national convention in February, 1956, according to a report in the ESA News Digest, and will affiliate with Engineers and Scientists of America. It apparently competes with the older Westinghouse Union of Salaried Employees.

[2] Resigned from membership in ESA and affiliated with AFL-CIO.

[3] Voted to withdraw from ESA (because of fundamental disagreement with policies) shortly after 1956 convention, but reconsidered and retained membership.

[1] Chemical Week Magazine, April 19, 19
noted that these three bargaining agents (
the Association of Professional Engineers, Ch
ists & Scientists of the Texas Co., Port Art
Texas) are run on ultra-democratic princi
(membership being voluntary and anyone
free to resign at any time) with no initiation
and very low dues. Members are free to
"union" channels or confer directly with m
agement. All issues go to the membership
ratification, and most of them have provision
recall, initiative, and referendum. At the
Chemical Week made this report it found
REPEA had enrolled 92% of eligibles in
plant; AIS had 80% at one time, but an in
of unorganized men from another branch
Shell dropped the percentage to 65% des
an actual increase in membership; SPCE
85 to 90% of eligibles at Humble; and APE
80-85% of those at TEXACO. In the Mar
April, 1954 issue of Conference Notes (publis
by the Conference of Professional Techn
Personnel, Inc., Bell Laboratories) was a st
ment of the achievements and policies of REP
which indicates that the Chemical Week s
of its policies was a good estimate of its b
principles. REPEA is proud to be recognized
the first collective bargaining agent represen
only technical professional employees to be
tified by the NLRB. It is proud of these
visions in its contract: The principle of reco
tion of individual merit as a primary basis
salary adjustment; the right of a member
freedom of action to deal as an individual
any matter affecting his welfare; leaves
absence with pay, not to exceed five days
calendar year to attend recognized technical
professional society meetings.

[2] The ESA and its affiliates, in their ho
organs, report that the REPEA has several ti
submitted to its members the proposition
membership in ESA, and that the proposal,
spite of the eagerness of some of the organ
tion's officers to affiliate with ESA, has
voted down.

[3] Elsewhere in this issue (in a report on
1956 ESA convention) the position of the Soc
of Professional Chemists and Engineers of
Humble Oil Company is stated, under cap
of "ESA Seen From Without."

presentation and to bargain autonom-
sly. The Southern California Profes-
onal Engineers Association (represent-
g engineers at Douglas Aircraft Cor-
ration, Southern California Gas Co.,
s Angeles Department of Water and
wer) refrained from identifying itself
th the ESA, until 1955 allegedly be-
use the ESA represents organizations
ich include too many sub-professionals.
SA claims only that its affiliated are
de up "predominantly" of employees
o qualify under terms of the Taft-
artley Act as "professional employees."

"Sounding Board" Groups

It is not at all surprising that two other
ganizations remain independent—The
nference of Professional Technical
rsonnel of the Bell Telephone Labora-
ries and the Pittsfield General Electric
gineers Association (and other organ-
tions of GE engineers similar to the
ttsfield organization). This is the type
organization which is not certified by
NLRB as a bargaining agent, and
leed does not contemplate bargaining
thin the strict meaning of the National
bor Relations Act. In its publication,
nference Notes, the Conference of Pro-
sional Technical Personnel, Inc., of
ll Laboratories (May-June 1954) states
objectives and limitations as follows:

> he Conference proposes to advocate its
> ectives "in all feasible and proper ways
> its command." . . . What are the ways
> ch the Conference does not consider
> sible and proper for its own situation?
> s not a certified labor organization, and
> s not bargain collectively with manage-
> t. It will not strike, nor will it use the
> r traditional pressures used by labor
> ns. It is prohibited by its constitution
> n joining a federation of associations,
> though their objectives may be similar.
> What feasible and proper ways are left
> ? From its inception, the Conference
> believed in the efficacy of public dis-
> ion of issues. The Conference Notes has
> ented the views of the membership as
> essed through its elected officers. . . .
> roposes to call attention to those policies
> actions of the management it considers
> nful to the best interests of the staff
> l, therefore, in the long run, to the
> pany). It will also point out those poli-
> and actions it considers exceptionally
> mendable.

his was probably the type of organ-
ion that many national engineering societies expected to develop when they vigorously championed revision of the Wagner Act. It was confidently expected that they would use the Taft-Hartley Act's definition of professional employees as an "escape clause" and, if they organized at all, follow the pattern set up in the model constitution drafted by a committee of the technical societies. Those groups which have followed the pattern are not usually good prospects for ESA; in fact, the constitution of the Conference of Bell Laboratory employees forbids such affiliation.

When Vice-President John E. Taft of ESA addressed a Conference (Bell Laboratories) meeting, on direct questioning concerning ESA plans, he said categorically that Engineers and Scientists of America did not intend to make war on "sounding board unions." This was reported in the house organ of the Conference "Conference Notes," May-June 1954 issue. Nevertheless, the October, 1954 issue quoted at length from articles about ESA in "Fortune" and "Business Week," playing up one item in the "Business Week" story, as follows:

"Of special interest to the Conference is a statement in the Business Week article to the effect that "ESA may try to challenge through the National Relations Board the legality of the sounding board type of engineers association."

An article which appeared in *Conference Notes* (issue of May, 1953) both by direct statement and implication indicates how slight are the chances of bringing the "sounding board" organizations into ESA or any organization like it:

> The article on Taft-Hartley testimony appearing on page 1 of this issue gives some idea of the divergence of opinion existing today on the subject of professional employee organizations. There appear to be at least three degrees of optimism (or pessimism, depending on which end of the scale you start from). The most optimistic segment, perhaps represented best by the General Electric Engineers Association of Schenectady, visualizes a time when employee organizations won't be necessary at all because the engineering profession will have been raised to a lofty plane by the actions of some "Unity" groups. SGEEA apparently feels that this Unity group would not need to engage itself in talks with specific managements.
>
> The Conference appears in the middle

with the feeling that employee groups may always provide a useful function but that many of them need not adopt a belligerent attitude in order to achieve results.

The Engineers and Scientists of America (ESA) unions represent the pessimistic element of the profession which feels that all management must be vigorously faced by collective bargaining action backed by legal compulsions.

Each of these groups undoubtedly acts in response to beliefs generated from the situation it has experienced. Each may be right; each may be wrong; time will give an answer.

Meanwhile, we can but wonder whether ESA's attempt to force, by legislation, all organizations into their pattern is an indication of urgency, or of insecurity. The units affiliated with ESA have not had exactly overwhelming success in convincing professionals in their own companies of the necessity of being "unionized." As or about a year ago, when the second Chicago Convention completed plans for the formation of ESA, the organizations involved only had about 15,000 *members*. Claims of *representation*, however, range anywhere from 25,000 to 40,000, depending on who's making the claim.

In spite of the distrust manifest in this discussion of the ESA type of organization, the Conference has not gone overboard for the kind of "Unity Organization" proposed by the Pittsfield General Electric Engineers Association. Of this plan the Conference (in the January 1953 issue of "Conference Notes" said:

" . . . . We think the GEEA plan holds great promise, so far as the professional interests of engineers are concerned. It embodies some questionable features in its present form, however.

" . . . The attempt to compromise the differences between NSPE and EJC appears to have been made at the expense of some of the principles on which the plan is said to be based. For example, the Second Principle calls for a governing body representative of *all* groups in the engineering profession. As it has evolved, the plan proposed would allow only registered engineers to hold top offices.

"Along the same line, it appears that the composition of the Board of Trustees is heavily weighted toward NSPE. If there is a logical reason for the 3 to 1 ratio as proposed, the reason escapes us. On the basis of present membership, at least, such a division could hardly be justified.

"Finally, we feel that the Fifth Principle
—definite consideration to the economic
status of engineers—has been largely
emphasized in the GEEA plan. Provisi
is made for an "Economic Status Co
mittee," but the inference is drawn th
this would be a secondary function of t
Unity Organization. On this basis alo
we feel that large numbers of enginee
would not back the plan.

"Despite these criticisms, we still thi
the Pittsfield proposals hold promise. M
equitable representation on the Board
Trustees, and elimination of the requi
ment that top officers be registered enginee
would make the plan more agreeable. Acce
ance of such changes by the NSPE wou
to be sure, require a certain amount
shift in the rigid position that group h
so far taken. NSPE has a worthy goal
striving for registration of engineers, a
we agree that such registration would
a significant step toward improving
so-called "professional" rating of engine

"Nevertheless, to an engineer who is c
cerned more about doing a good job
engineering than worrying about whe
he is a bona fide "professional" or not,
whose work does not require possessio
a license, the arguments for licensing m
sound more academic than convincing.
restrict an engineer's potential activitie
a Unity Organization on the basis of fai
to register would, we feel, only reduce
incentive to join in the first place."

ATTITUDE TOWARD TECHNICAL AND PROFESSIONAL SOCIETIES

Here is the surface indication of
other line of cleavage created by the
ganization of engineers for defense
their "economic and professional stat
*Not only is there dissension betw
NSPE and the aggressive bargain
organizations like ESA and its affiliat
there is a less obvious, but not less fun
mental difference between the NSPE
such conciliatory groups as the Confere
of Professional and Technical Person
of Bell Laboratories. Nor is NSPE
only national organization which is in
opinion of engineering employees' as
ciations disqualified as an agency of Un
The February 1955 issue of "Confere
Notes" carries a very trenchant edito
called "EJC's Blindspot" which is h
quoted in part:

"The EJC Special Committee on Uni
ization, while deploring with all its mi

---

* Most apparent in a clash between ESA
NSPE over the Kearns bill to clarify the st
of sounding board unions.

existence of collective bargaining
ıps of engineers, has failed to under-
d, or at least to recognize, one of the
cipal causes of unions being organ-
. And that is the complete lack of
-way communication between em-
ees and management in companies
loying many engineers and scientists.
Most companies are readily convinced
they should put more effort into the
nward communication channel. But
t companies, not excepting the Bell
oratories, are reluctant to admit the
for any but the most haphazard com-
ication channel in the upward direc-

This being so, it is not difficult to see
any group of proud and frustrated
loyees should seek a medium express-
their bottled-up feelings. In the more
lent cases, and depending on the cir-
stances peculiar to that company, this
ium has taken the form of an engi-
s' union. We at BTL think the in-
al or so-called sounding board type
ngineers' organization is, or at least
ld be, a happier solution. . . .
is perhaps not surprising then that
EJC Committee, *having no taint of*
oyee opinion on it (emphasis sup-
by editor), should have a blindspot
ne subject of upward communication.
until it recognizes the need for up-
communication, and advocates a
ion for it acceptable to employee
neers, all their railing at the unpro-
nalism of collective bargaining will
serve to convince more engineers of
hollowness of the EJC solution. In
n case the next EJC survey of senti-
on collective bargaining can expect
than the present 34% to find bar-
ng compatible with professionalism."

* * *

his is the sentiment of Bell Labora-
' Conference of Professional and
nical Employees, the typical "sound-
oard" organization, it can be inferred
the more radical groups are even
suspicious of EJC's Special Com-
e on Unionization *"with no taint of*
yee opinion on it."
is not necessary to infer; Sperry
neers Association sounded off in its
, "The Sperry Engineer" for April,
as follows:

"The April, 1954, issue of "Electrical Engineering," the publication of the American Institute of Electrical Engineering, carried a report by AIEE president, E. B. Robertson, on the activities of the Engineers Joint Council in promulgating Engineering Unity. Mr. Robertson, who is also president of E. B. Robertson, Inc., of Dallas, Texas, reports that EJC has failed in this function. . . .

"The total membership of EJC is now eight societies and the prospect of increasing this number in the near future is not good. The most likely potential new member societies have allowed their invitations to lapse without acting upon them, as indicated in the foregoing, and in the future it will be necessary for them to apply for membership.

"The report than proceeds to review the history of many efforts, and *failures,* to achieve engineering unity through organizations of engineering like EJC. It reaches a climax with the following statement:

" 'The committee, after reviewing the current status of unity in the engineering profession under EJC as now organized and constituted feels that progress is not satisfactory. It is the further belief of this committee that there is a critical need for an effective, adequately supported unity organization and that the time rapidly is running out in which the engineering profession can *forestall the serious encroachment of unionization* unless such an organization is formed." (Italics supplied.) The report then concludes with a plea for "engineering unity through EJC.' "

The Report continues as follows:

EJC cannot succeed. Mr. Robertson almost recognizes this when he says: EJC is not developing into the kind of unity organization *desired* generally by engineers. (Italics ours.)

Naturally, ESA is the desired organization. Anyone (Mr. Robertson included) who really thinks that EJC-like organizations stand any chance of unifying engineers, is whistling in the dark. Organizations like EJC are foredoomed to failure by their very nature, for several reasons. . . .

Unity of all the societies could not unify engineers. The societies serve their members by collecting and disseminating technical information. Technical publications, technical conferences and the like have always been, and will continue to be, the proper function of these societies. By their very nature, they are incapable of serving the economic needs of engineers.

The societies' members include working engineers and former engineers who have transferred to management. These are two diverse groups, with divergent interests whose only common ground is technical. Economically their interests often clash.

Those former engineers who have transferred have the problems and interests of management personnel, while the great majority of engineers face the problems of employees. . . . For the former the American Management Association acts as a unity organization, unifying them with all management personnel. The latter requires an organization like ESA to further their economic and professional interests, for they are, in the main, large groups of employees working for large corporations. Their economic needs cannot be served by the technical societies, which are led by managers like Mr. Robertson, but only by the member unions of ESA.

Because of the fact that most engineers today are only small cogs in large machines, EJC cannot succeed. Management dominated EJC cannot compete with engineer-run ESA in serving the economic needs of engineers and of related professional employees.

The ESA— Aims and Achievements

Because Engineers and Scientists of America has succeeded in federating, however loosely, the largest number of engineer unions of any national group in this field, it is interesting to examine its stated aims and its achievements to date. These, it may be assumed, were fairly stated in a report in the "Council Compass," published by the Council of Western Electric Technical Employees, March, 1955 issue, of an address delivered by ESA's president, Joseph Amann, at a monthly meeting of the Council's Chicago Section, February 16th.

The ESA president outlined the purposes of ESA, as, first, to assist in organizing and collective bargaining for engineering employees. He indicated that a major frustration is their economic status. In the 1920's, he said the salaries of American engineers were about four times those of production employees. But in the 1950's this ratio has fallen to about 1.95 to 1 across the nation, for a lifetime of engineering employment. Mr. Amann said that rosy pictures of their future earnings are still being painted for engineering graduates. They are invariably told that they will all be leaders of men. But young engineers, broadly trained in college, face their first major frustration when they become narrowly specialized on the job.

Mr. Amann touched briefly on the problem of security regulations as they affect American engineers and scientists employed
in industry. He reviewed the part pl
by ESA in the filing of the "amicus cur
brief in the U.S. Supreme Court for
John Peters, a Yale University medical
entist, who has been denied security thr
charges placed by persons he cannot
front in an open hearing. The secu
problem is a product of the general cli
of opinion now prevalent in the U.S.

. . . Chief among the services to be
nished through ESA efforts are up-to-
engineering employment statistics. Nei
the Bureau of Labor Statistics, the Nati
Science Foundation, nor the Office of
fense Mobilization have such statistics,
ESA has been working to make
available as an aid to both enginee
management and engineering unions.
bring this about, ESA is advocating
the House Subcommittee on Appropria
allocate a million dollars for the colle
and dissemination of engineering
statistics and scientific manpower fig

The whole question of the so-called "
neering shortage" is receiving major
tion from ESA. Management does not
to be caught short-handed, but does not
accurate figures on which to base its re
ment policies, he said. But this probl
not likely to be speedily solved, for
the Engineering Manpower Commissio
the Scientific Manpower Commission
tinue to stress the importance of *quan*
engineers. Only the National Science
dation and ESA appear to agree tha
engineering shortage is largely syntheti
that the *quality* of engineers needs incre
emphasis in America's technological
with the Soviet Union.

The ESA Chief Executive comment
the consequences to engineering emp
of the AF of L-CIO merger which is
under way. He reported that at the Feb
meeting of the two federations in M
Florida, A.F. of L. President Meany str
the great open field of unorganized w
collar employees as a major target o
merged American labor movement.
Amann said that already the CIO Elec
Workers' Union, IUE is beginnin
concentrate on organizing professional,
nical, and clerical workers. Engineers
ployed by such firms as the Chrysler
poration, now covered by the UAW-
and chemical engineers whose manage
bargain with District 50 of the United
Workers (Ind.) would like to extricate t
selves from the shop unions, but have f
the goal very expensive and difficult.

Mr. Amann detailed a second ESA o
tive—representing industrially employe
gineers before legislative bodies and
public. He said there are currently
80 engineering societies in America. A
them purport to represent and speak
engineers—but none do. The most voc
these groups is the National Societ
Professional Engineers (NSPE). Sev
four per cent of the membership of N
is made up of men in the third leve
engineering management, or higher.

t for token efforts by the American
ation of Technical Engineers—A. F.
(3000 total), beginning in 1947, tech-
professional employees were not rep-
ted before Congress until the activa-
f ESA two years ago. Among its first
s, even before its formal inauguration,
was instrumental in securing salary
trol by the Wage Stabilization Board
ndustrially-employed engineers. More
tly ESA sponsored legislation was in-
ced into the 83rd Congress to clarify
erm "supervisor" in the Taft Hartley
and to outlaw so-called "sounding-
" groups of engineering employees.
e current Congressional session, ESA
press for changes in the Fair Labor
lards Act to raise the time and a half
ent for overtime of "exempt" employ-
om $325 per month to $500 per month.
ldition, he said, ESA plans to testify
e the Armed Services Committee of
enate and the House on Selective Serv-
olicies and their effect on the produc-
of young engineers. ESA continues
terest in the controversial Dixon-Yates-
question: first, because of the public
problem it raises for the whole coun-
ınd, secondly, because this question
ly affects the interests of one of the
t ESA Member Units, the TVA Engi-
Association.

. Amann outlined ESA activities spe-
ly aimed toward improvement of the
mic status of engineers. He said the
h Section of CWETE-N is preparing
dustry Evaluation Report for presen-
at the May 1955 National Conven-
of ESA. This will consist of a set
un and Bradstreet-type ratings of
rial firms which employ engineers.
atings will assist engineers in choosing
mployers upon comparison of such
as salaries, employment stability,
ition for patents, leaves for advanced
ion and other considerations. A newly
l ESA committee has begun the study
nsing and registration procedures cur-
applying to engineers throughout the
y. He also outlined the aims of ESA
egard to college relations. In response
uestion, the ESA President said that
deration eventually plans to establish
t chapters on engineering college cam-
across the nation. This will help
nt students with the realities of the
rial world.

ther question from a CWETE-N
r dealt with the subject of statistics
y ESA member units and engineering
ement in collective bargaining discus-
ESA groups base their bargaining
ls on salary surveys and the inter-
of information among Member Units.
ering management bases its salary
n on surveys conducted largely among
whose professional employees are
nized, Mr. Amann said. The record
that salaries of organized profes-
are, as a rule, higher than those of
nized engineers. This problem of
reconciling two sets of conflicting statistics can best be solved, suggested Mr. Amann, if the Bureau of Labor Statistics can be equipped to gather and distribute accurate figures regarding salaries and other working conditions of technical-professionals. This is the reason for ESA's advocacy of the $1,000,000 appropriation by the Congress. The importance to engineers of accurate economic statistics is illustrated by the fact that each week the BLS receives 155,000 sets of figures relating to production workers, voluntarily submitted by management representatives, and not a single figure applying to engineering and scientific employees.

* * * *

Boiled down, the objectives of ESA which have made it the choice of many of the larger and more aggressive engineering unions (representing, it is claimed, through their affiliates 40,000 industrially employed engineers and scientists)[1] seem to be these:

1. To "speak for" employed engineers on public issues and challenge the right of other national organizations in which "management" engineers predominate to "represent" engineers of employee rank.

Some of the "issues" on which they speak are high voltage political matters—the Dixon-Yates controversy, segregation (subject of a strong editorial in ESA News Digest, June 1954), and security procedures. The ESA has written congressmen, senators, and the president to bring to their attention the resolution adopted in its 1954 convention urging certain changes in the Industrial Security Program. The Executive Committee of ESA has directed all member unions to aid in the individual member in "processing his security clearance defense." ESA stands ready to help in the appeal stage.

ESA is ready to challenge the major unions if they attempt to change the provision of the Taft Hartley Act which gives professional employees the right to decide in autonomous units the issue of forming bargaining groups and selecting a representative. It has already challenged national engineering societies in opposing the Kearns bill to strengthen the position of sounding board unions and has plugged for an amendment which would outlaw them as employer dominated. It has under consideration a campaign to amend engineering registration laws as they affect industrially employed engineers. It hopes to establish "student chapters" on college campuses and[2] acquaint them with realities of the industrial world" (translated, give them the other side of the picture on unionism of professional employees, since other national engineering societies through their campus units presumably omit the "realities of the industrial world").

---

[1] The figure 40,000 refers to the total number of men in the bargaining units represented by the unions which constitute ESA. The figure 40,000 does not refer to the number of dues paying members of these unions, estimated to be considerably less than half this number.

2. To unify employed engineers by helping with the organization of new bargaining units and drawing the units into ESA, and to promote collective bargaining by supplying engineer unions with information needed in effective bargaining.

It is to this end that the ESA wants the Bureau of Labor Statistics authorized to make an extensive survey of engineering employment. It is obvious that "interchange of information" among the affiliates of ESA can greatly facilitate bargaining, especially during periods of contract negotiation. This practice is one that management cites as an example of the strain that unionism puts on "ethics" —contending that engineers must honor the confidence that management necessarily places in them—that such interchange of information is a violation of the confidential relationship between engineers and management. In the now famous Boeing case, in which engineers tried to
set up a sort of refined "hiring hall"
offset the "gentleman's agreement" am
employers in the aviation industry,
question of "loyalty" was raised. The v
interesting survey being prepared by
Duluth section of CWETE (to which
Amann referred) would doubtless r
the same question. It is in such cases
these that management finds its best ar
ment in favor of the theory that union
is incompatible with professionalism.

ESA AND THE TRADE UNIONS

Although Mr. Amann warns of k
competition for white collar workers t
must be expected from the major la
unions, in his presentation of the fa
there is not the heat that characterized
violent resentment which engineers
hibited in pre-Taft-Hartley days w
they were being forced to accept la
union representation as "captive" m
bers of heterogeneous bargaining u
Professional employees are now vo
tarily, in autonomous units, choosing
jor labor unions to represent them.
most every bulletin on elections and
tifications issued by the NLRB re
acceptance by units of professional, t
nical, and office workers of such craft
industrial unions as: Architectural
Engineering Guild, AFL; Techn
Engineers, AFL; Office Employ
AFL; Int. Federation of Technical E
neers, Architects and Draftsmen's Uni
Non-ferrous Clerical and Techn
Workers, Ind.; Auto Workers, C
United Stone and Allied Products Wo
ers, CIO; Teamsters, AFL.

In the groups which by majority v
accept craft or industrial union repres
tation there are undoubtedly some prof
sional employees who are opposed to s
affiliation. The majority, however,
out frankly for the benefits that aggr
sive collective bargaining can bestow,
want no amateur or inhibited agent. T
prefer the union which represents all
other categories of workers in their pla
or they want a craft type union clos
identified with AFL-CIO.

"Fortune Magazine" (June 1954 iss
in an article about ESA observed
tutely:

> The engineers have learned, moreo

---

[2] Everett Taft, president of the Minneapolis Federation of Honeywell Engineers, has been carrying the fight for engineer unions to the campuses of engineering schools. The June 1956 issue of the "MFHE Reporter" recounts his visit to the Montana State College of Bozeman where he made three addresses, one to a group of business men, one at a joint meeting of the seven student chapters of the national engineering societies, and one to a class in industrial relations. This, the "Reporter" says, is the ninth of President Taft's visits to engineering colleges. The others are listed as: University of Minnesota at Minneapolis, University of Illinois at Urbana, University of Michigan at Ann Arbor, Unversity of Buffalo at Buffalo, Columbia University at New York City, M.I.T. at Boston, Rutgers University at New Brunswick, N.J., Princeton University at Princeton, N.J. His plans for the fall include appearances at these schools: North Dakota State College at Fargo, University of North Dakota, at Grand Forks, South Dakota State School of Mines, Rapid City, and South Dakota State College of Agriculture and Mechanic Arts, Brookings.

icularly in the Arma[3] and Sperry strikes, re the CIO electrical unions respected r picket lines, that they can be effective when they have full cooperation of the -collar employees. This would require h stronger ties with the AFL or CIO. hese prospects, however, are not pleasing many of the engineers, and they pose uestion for the survival of ESA; either engineers may dissolve into autonomous s, or like the telephone and oil workers might have to centralize the union cture and seek alliances with the labor eration.

Fortune's" 1954 prediction has proved urate. ESA and its member units have ountered several types of difficulty wing out of their relationship with ons and their desire to establish and ntain "professional" bargaining units. four main problems, in order of their easing importance, are:

Intra-company on-the-job friction use of inadequately publicized divid- lines marking the scope of profes- al and non-professional work.

Conflicts over decertification pro- lings for engineers who have voted representation by trade unions and have regretted it.

The reluctance of the NLRB to set 'purely professional" units when "pre- inantly professional" units will (in opinion of the Board) serve better the ciple of "community of interests."

A serious schism in the ESA over question of "purism"—with one fac- favoring "purely professional" and other devoted to "predominantly essional" units and cooperation with major labor unions (possible amalga- on with AFTE or affiliation with -CIO.)

the following pages articles from ous engineer union publications will eproduced which demonstrate these lems. The first is an article from Exponent" (April 1956 issue) pub- d by APEP (Ass'n of Professional neering Personnel at RCA).

Overlapping Work Areas

ecialization and unionization has re- l in more sharply dividing the areas of in modern industry. These areas are eadily apparent since many unions do bother to publicize the dividing lines, newcomers will often overstep them entionally. If the matter is explained lly, no damage is done and future violations are avoided. All too often, however, the newcomer discovers his error only when a grievance charge is filed. This is about as tactful as a traffic ticket, and considering that no warning signs are posted, the recipient is not likely to develop any great love for the union filing the charge.

Engineers are especially prone to intrude into all departments of industry, including drafting, model shop, factory, and even plant maintenance. This happens because experiment and development frequently requires temporary jobs which are routinely performed by these departments. Experimental work is not production for outside use and the engineer is not trying to take routine work away from the craft. Nevertheless, if there is a blind and complete prohibition on engineers performing a task which belongs to any of the crafts, the effect will be to slow up development, to curb imagination and trial of new ideas, and to encourage copying and hack engineering. Obviously this benefits no one.

I would like to suggest, therefore, that union members do a better job of educating others, in a friendly way, of the scope of their work. In addition, I feel that a grievance should not be used as a first notice to an individual that he is trespassing on the work of another. Finally, I hope that craftsmen (many of whom become engineers) will regard themselves, not as a soldering iron or as a drill press, but rather as a whole human being, capable of judging the difference between an occasional overstep and a real invasion.

Decertification of Professional Employees

The article which follows was published by the AIC and is a report of the chairman of the AIC committee on Constitution and By-Laws:

The Taft-Hartley Act provides that the National Labor Relations Board cannot include professional employees in a union with non-professionals unless the professional employees vote for such inclusion. It also authorizes decertification elections.

Recently the National Labor Relations Board held that professional employees have no right to a decertification election to withdraw from a plant-wide union which they had once voted to join, even though there had been a substantial turn-over among the professional employees during the interval of several years between the election to join and the request for a decertification election.

The facts on which this ruling was based are as follows:

---

[3] "Fortune" refers to the earlier Arma strikes (there have been three) but its remarks apply with special significance to the third strike in 1955 which will be discussed in great detail elsewhere in this issue.

Professional engineers at a Westinghouse plant in Jersey City had elected to join the AFL-CIO Electrical Workers Union in 1950. In the interval between 1950 and the petition for a decertification election, which was brought recently, there had been a large turn-over among the professional engineers employed at this plant. Apparently the present group of professional engineers desired to withdraw from the plant-wide union and go non-union.

On their petition for decertification, the National Labor Relations Board extended to professional employees the doctrine under which it denies craft and technical employees any right to withdraw from a larger unit and go non-union.

This decision of the National Labor Relations Board makes it extremely important for professional employees to consider carefully before voting for inclusion in a plant-wide union or other broad labor unit, because the decision to join is irrevocable, not only for themselves, but also for their successors.

In the *American Engineer* (July, 1956) there appeared in the Engineers-industry Subcommittee's report an item which shows the concern of National Society of Professional Engineers over the NLRB's policies in regard to decertification.

The change in NLRB policy with regard to decertification of professional employees from heterogeneous unions was brought to the attention of the Subcommittee in the case of professional pharmacists. As reported to the Board of Directors in February 1956, the National Labor Relations Board had deviated from past policy by denying a decertification election to professional employees (pharmacists) represented by a heterogeneous union. NSPE filed a letter of protest with the NLRB with respect to this new policy and at the time of the February Board meeting we were awaiting the NLRB reply. Since that time NLRB has issued a similar decision involving 22 engineering employees of Westinghouse at Jersey City, New Jersey, who are represented by a trade union. The NLRB decision again held that professional employees could not be separated for voting purposes in a decertification election. The decision in the Westinghouse case was in effect a rejection of the NSPE position as sent to the Board. In addition the Board later notified NSPE by letter that it could not accede to our views.

These developments were reviewed carefully by the Executive Committe which decided that if the engineering employees at Jersey City should take the NLRB decision to court, NSPE should seek to intervene in the case as a friend of the court in order to present the principle involved which affects the entire profession. The court case has now been filed and NSPE plans to offer a brief in support of the professional principle. The Executive Committee action on
this matter will be presented to the Boa
as part of the Executive Committee minut

Not all the decertification actions ha
been directed toward trade unions. T
Council of Western Electric Technic
Employees in the June-July 1956 issue
its publication, the "Council Compas
referred obliquely (in a report of its A
nual Meeting, July, 1956) to its own d
certification problems as follows:

> *Decertification Petitions*—It was the co
> sensus that the decertification drives,
> directly stimulated by some overly ambitic
> supervisors, are a waste of time since,
> the final analysis, any nation-wide sec
> ballot election would result in an overwhel
> ing majority vote for the Council. Effo
> of some supervisors at Hawthorne to cir
> late, under the guise of informational bul
> tins, decertification petitions were consider
> useless.

Minneapolis Federation of Honeyw
Engineers is definitely opposed to t
"pure professional" limitation on barga
ing units—so much so that it conside
withdrawing from membership in E
after the 1956 convention. Here, ho
ever, is a report published in the MF
Reporter, June 1956 which very clea
sets forth the attitude of the NLRB.

PURE PROFESSIONALISM VS THE BOA

A recent NLRB decision involving E
may well become a landmark. It was t
case involving the Westinghouse Elect
Corporation and the Buffalo Section, W
inghouse Engineers Association, ESA. T
bears Case No. 3-RC-1634.

Presented below is an analysis of t
Case and the state of the law regarding
creation of purely professional bargaini
units which is now emergent. This analy
and commentary is part of a private co
munication with one of the lawyers w
has been handling the case for ESA:

"This was the case in which ESA
structed our office to ask for a *purely p*
fessional bargaining unit within the meani
of Section 2(12) of the Act. At the heari
we stressed the fact that the unit *must* be
purely professional unit and that it co
not be tainted with 'lesser men.' Again wh
the hearing was closed, we stressed the pu
professionality of the unit in our Brief.
was our position that, under the law, pa
ticularly Section 9(b), the NLRB must gra
a purely professional unit when such
requested. It was our argument, further, th
when a purely professional unit is demand
the Board cannot establish the 'predor
nantly professional' bargaining unit wh
it has been wont to do in cases where

itioner has not stated with sufficient clar- that he wants an untainted professional t.

In the Westinghouse case, there were five egories of employees which we claimed uld not be within the bargaining unit be- se they were technicians. The total num- of employees in these five categories was The categories were:

1) Engineer Order Service
2) Engineer Test Record
3) Engineer Contact
4) Order Correspondent Master
5) Safety Inspector

We claimed that the employees in these categories were not 'professional' as ned in Section 2(12) of the Act and uld, therefore, be excluded. The inter- ing union claimed that these employees e truly profession and should be included. Company took no position.

The issue caused the Board to inquire the duties performed by the nine em- ees in the above listed five categories also to go into their professional back- und. The Board after making its inquiry study of the record, concluded as ows:

Ve find, upon the basis of the entire ord, that the employees in the five dis- d categories are NOT professional em- ees within the meaning of Section 2(12) the Act.'

However the Board also concluded that loyees in three of the above listed five gories 'share a close community of loyment interests' with the purely profes- al employees. The Board, therefore, con- ed in saying:

lso it does not appear that the addition he nine employees in these categories to unit of 233 employees stipulated to be essional would destroy the predomi- ly professional character of such a unit. er all the circumstances, we shall in- e these employees in the professional

. "The crucial importance of this case at even if a petitioner expressly and ifically seeks a purely professional bar- ing unit, and without question, seeks to ude anyone who does not meet the ition of Section 2(12) of the Act, the B still will not feel obligated to create rely professional unit. It feels that it s the requirements of the Act if it lishes a 'predominantly professional' aining unit.

Future of ESA

analyzing the "orientation" of Engi- s and Scientists of America (ESA) factor looms large above all others. impact and ramifications of the third a Strike are all-important in an un- anding of the course of events during weeks preceding the 1956 annual con- on. The significance of the Arma strike and its influence on the course of ESA development can be seen in three reports which preceded the 1956 ESA Convention and in several reports on convention activities representing, first, the reaction of engineering associations *outside* the ESA, and second, conflicting views of two strong constituent units of the ESA which will be reproduced here.

First there is a report of the ESA Executive Committee meeting on December 10 and 11, 1955, quoted from the MFHE *"Federation Reporter"* December 1955:

> A well-ordered agenda, calculated to fully occupy the weekend, was telescoped by the impact of two items of the crisis variety. Accordingly as soon as the Treasurer's report had been made and accepted (ESA is now in fair financial shape for the first time since the memory of man runneth . . .), the rules were suspended in order to give immediate consideration to the Arma and EAA situations.
>
> *The Arma Situation.* The Arma facts before the Committee were these: Our brothers were entering the tenth week of their strike and there were no signs of settlment. The shop union (IUE) had settled, but had retained the legal right to respect the Engineers' picket lines. Not a man had crossed, but the Company had launched an all-out, back-to-work campaign aimed at splitting the solid alliance between the two unions. Responding to the pressure, the Reps Council of the Arma Engineers had voted overwhelmingly to recommend a change of affliation from ESA to AFL-CIO.
>
> The ESA Executive Committee discussed the situation exhaustively. Initially, many shades of opinion were expressed, but the final ESA position found unanimous approval. It was summed up in the following telegram which was dispatched to Arma President Martin Sills by ESA Vice President John Taft:
>
> The ESA does not intend to lose our finest group without a fight to the finish. In addition to the more than $4000 which the ESA and your brother units have already contributed to the EA of Arma, the Executive Committee passed the following motions today:
>
> 1. The ESA immediately offers full and complete support to the EA of Arma including the full resources of the ESA Emergency Fund which has already reached $9,000.
>
> 2. The ESA offers its good offices to assist the EA of Arma in negotiations.
>
> 3. The ESA will continue to exert full efforts at the national level in Washington to stop the union busting of Arma management.
>
> 4. Your brother ESA groups are soliciting further funds for the EA of Arma, and the ESA Executive Committee has ordered a renewed effort for Arma support. As a

start the members of the Executive Committee have personally contributed $20 each to the Arma cause.

The second story represents the attitude of an important member Unit of ESA while there was (it was hoped) still a chance of holding Arma as a member of the ESA. This story is from the *"Sperry Engineer"* issue of December, 1955.

ESA has pledged itself to provide EA of Arma with all necessary welfare assistance. ESA has fulfilled this pledge. It has received the funds needed from contributions given through member units of the ESA. We here at Sperry have contributed $2,000. To insure its pledge, the ESA will need our continued support for the duration of the Arma strike.

At stake is the future of an independent national union for engineers, designers and allied professionals. ESA must demonstrate to the employers of engineers, the AFL-CIO, the general public, and its own member units, that ESA can and will support any mmber unit engaged in a legal strike.

Some of us feel that the EA of Arma has deserted the ESA and, therefore, additional support would be a waste of money. This is based on a first vote by EA of Arma to affiliate with the AFL-CIO. However, this vote could be interpreted in a number of ways. Whatever the intentions of EA of Arma may be, the affiliation of EA of Arma with the IUE cannot become official until approved by a second vote.

It is a fact that after twelve weeks of strike, facing the ever present threat, that the IUE unions at Arma will cross its lines, only 250 of the 700 members voted for affiliation. No one can predict what the next vote will be, but anyone can predict what effect the sudden withdrawal of our support will have on that vote. Arma EA is still a member of ESA and we are obliged to support it.

Your fellow engineer at Arma has not had a Merry Christmas, and is faced with a management apparently seeking not to resume production, but to break a union at all cost. Give where it will do the most good —Support ESA—Support EA of Arma

Outcome of the strike is reported impersonally in *Conference Notes* (March 1956) published by one of the outstanding "sounding board" units, the Conference of Professional Technical Personnel, Inc. of the Bell Telephone Laboratories, as follows:

AFTER THE ARMA STRIKE

As reported in the February *Notes* the Engineers' Association of Arma ended its 13-week strike on January 1, 1956. Some of the results of the strike can now be evaluated.

It is reported that about 1/5 of Arm
engineers found permanent jobs elsewh
during the strike. Those remaining fou
themselves disgruntled with the supp
given them by the Engineers and Scienti
of America (about $6000) and voted to j
the AFL-CIO. Their famous "merit kitt
provided by contract, had been reduced fr
7.81 per cent of total payroll to 6 per c
of payroll of merit eligibles. Yearly 2½
cent general increases for 1955, 1956 a
1957 were found on the credit side, as w
higher maxima on all jobs.

For an outsider it is impossible to det
mine who "won" this strike. Loss of
weeks' pay and production, the bitterness
13 weeks of strike, and the affiliation
one of the country's largest associations
engineers with the AFL-CIO —all these
hard to evaluate. It is nearly certain, ho
ever, that the effect of the EA's affiliat
with the AFL-CIO will be felt in the fut
by many more than those immediat
affected.

How much of the Arma strike (and
engineers' dependence on IUE to win
influenced ESA's fate can only be
ferred. It was probably a large facto
the action taken by the Minneapolis F
eration of Honeywell Engineers w
was publicized in the MFHE "Fede
tion Reporter," April, 1956:

RESOLUTION PRESENTED TO ENGINEER SCIENTISTS OF AMERICA BY MFHE AT 1956 CONVENTION

"The Minneapolis Federation of Hon
well Engineers moves the adoption of
following resolution:

"Whereas, A primary purpose of E
is the furtherance of collective barga
ing among its member units; and

"Whereas, the settled policy of
United States encourages the practice a
procedure of collective bargaining a
other mutual aid and protection; and

"Whereas the AFL-CIO represents
mainstream of tradition, experience, a
strength of the mutual effort of Ame
cans to advance in their collective barga
ing endeavors; and

"Whereas, the problems, needs, and
terests of engineers and technical e
ployees are sufficiently unique to requ
a national organization of their ow
therefore,

"Resolved, That the ESA Execut
Committee is authorized and instruc
to seek, in whatever manner the Comm

deems best, prompt affiliation of the with the AFL-CIO as an autonom- nation-wide union of professional neers and technical employees.”

* * * *

rior to the 1956 convention of Engi- s and Scientists of America, Russell Stephens, president of the American eration of Technical Engineers, ad- sed a letter to Joseph Amann, presi- of ESA, which was reproduced in April 1956 issue of the MFHE “Fed- ion Reporter.” The letter was an out- of the advantages that might be cted to accrue to both AFTE (CIO-) and to ESA if the two institu- s were merged. In addition to the ous advantages of strength through eased numbers, more solid financing h AFL-CIO help), friendly relations large unions in the metal trades and ling trades departments, greater in- ce in the halls of government, and ss to AFL-CIO research facilities, Stephens noted that—

t is the purpose and spirit of the y adopted AFL-CIO constitution that and other specialized or professional ps of employees be accorded separate sentation.”

ngineering News-Record” reporting convention states “The ESA firmly politely voted 46 to 4, with five ntions, against a resolution calling ffiliating with AFL-CIO as an au- nous union. The alternative of merg- with the American Federation of nical Engineers did not come to a ESA leaders already had politely ted this proposition in discussions members of AFTE’s executive board, neeting in Dallas, at a social gather- n the opening day of the ESA con- on.

hough most delegates conceded that of the AFL-CIO connections would ESA much greater bargaining pow- ey expressed the belief that the gain be more than offset by loss of sional standing.

SA’s president, Joseph Amann, re- g to the proposed merger with , noted that 85% of ESA’s mem- are graduate engineers, while 75% of AFTE’s members are technicians, such as draftsmen.”

“Engineering-News Record” has briefly stated the facts about the more obvious factional fight within ESA, but the underlying (and fundamental) principles are better developed in the two stories that follow. The first is taken from the June, 1956 issue of MFHE “Federation Reporter,” and the second from the June-July, 1956 issue of “Conference Notes” (published by the Conference of Professional Technical Personnel, Inc. at Bell Laboratories).

ESA Seen From Without

(Preface)

[The Society of Professional Chemists and Engineers is an organization of professional and technical employees of the Humble Oil and Refining Company at Baytown, Texas.

It has often considered seeking certification from the NLRB as a collective bargaining agency, but has never made the leap. Its officers, however, have shown a lively interest in ESA, and an observer was sent to the Dallas convention.

Printed herewith is the report on the ESA which he made to the SPCE membership via its regular *Newsletter*.]

“The following discussion summarizes the impressions received by the SPCE observer. And while it must be admitted that first impressions frequently are subject to change upon subsequent contacts, knowledge and reflections, the present view of this observer is that ESA faces a precarious future. This conclusion is based upon the fact that ESA, as currently constituted, composes two definite factions with widely differing philosophies, neither of which display a disposition to compromise. One of these factions (APEP, CWETE, SPEEA, SCPEA, WEA) is dedicated to establishing and enhancing the “professional” character of ESA; the other (MFHE, EA, TVA,-EA) is equally adamant in their conviction that the future is inextricably involved with sub-professionals (technicians) and the trade unions. Since neither of these groups possesses the required majority of the allotted voting strength, essentially every proposal for positive action is faced with inevitable defeat. Moreover, because of the wary attitude of the two factions, every issue before the Convention was viewed with suspicion and soon reduced to the ever-present conflict in philosophies. Illustrative of this internal strife was the defeat of a resolution by APEP to amend the ESA constitution to delete the word “predominantly” from the phrase “predominantly professional” describing one membership requirement for new member units, and the defeat of a resolution by

MFHE requiring affiliation of ESA with AFL-CIO.

"Perhaps the best appraisal of ESA was that afforded by Professor Ben Aaron of the Department of Industrial Relations at UCLA in an invited address dealing with the status and future of ESA. In the eyes of Professor Aaron, ESA comprises a loose organization of autonomous units with no specific objective.

"It suffers from a lack of skilled 'technicians' at the lower levels because of inadequate finances and disagreement on an objective. Further, its achievements have not been impressive whether one considers membership, salaries, or working conditions. This severe indictment was followed by the conclusion that ESA had only two courses of action from which to choose: (1) disband or (2) join with the trade unions. Professor Aaron recommended the latter. . . .

"With member units spread throughout the United States, it might be expected that ESA activities would best be reflected in the reports of its various committees. In general, this expectation was not realized; typical cases were those of the Committee on Engineering Shortage and the Committee on Misinformation to Students. In the former case, apparently complete reliance was placed on an anticipated study of this subject by Rutgers University; when university funds for the study failed to materialize the committee was bereft of a report. In the latter case, the chairman reported that the avalanche of propaganda disseminated by several large organizations, such as General Electric, so submerged the Committee that their efforts were effectively dissipated, and the project was terminated. While the unavailability of funds undoubtedly hampered the activities of the above and other committees, the general impression was that other committee chairmen were too involved with the activities of their own member unit to devote the necessary time to ESA projects.

"Although the foregoing can hardly be construed as laudatory in nature, it is not intended to be disparaging; it merely reflects the fact that ESA stands at a crossroad facing an uncertain future. And equally certain is the fact that ESA has progressed but scant distance toward achieving the position of spokesman for engineers and scientists of this country."

ESA Convention (Conference Notes June-July 1956)

The issue of militant unionism vs. "professional" unionism produced even more than the usual fireworks at this year's convention of the ESA (Engineers and Scientists of America), which started in Dallas, Texas, on April 19th. The warring factions got together, however, to defeat a motion to affiliate with the AFL-CIO by the ample margin of 46:4.

Simply stated, perhaps over-simply, the "professional" faction, led by the Council of
Western Electric Technical Employe
wants to organize and retain unions co
posed exclusively of the professional
ployees. The other side, led by the MF
(Minneapolis Federation of Honeywell En
neers), believes that engineers' unions sho
include draftsmen, technical aides, and ot
subprofessional personnel, and should
operate to the greatest possible extent w
the other unions in the plant. It was
MFHE which moved for the merger of E
with the AFL-CIO.

Following the convention, the MF
voted to leave the ESA, but later rever
its vote.

The "professional" faction dominated
convention by the narrow margin of 29
Vote after vote was decided by this marg
This was insufficient to change ESA's c
stitution, but enough to change its by-la
including a reduction in the number
officers. John Taft, the incumbent VP, wh
many members of the Laboratories met
a CONFERENCE open meeting, was
feated for reelection by Alfred Orth. Ot
changes would seem to have favored
"professional" wing, without, how
having caused any major, basic upheava
ESA's structure.

It may be concluded that the ESA
at least temporarily, managed to keep
going as an entity. Whether it will be
to hold all its member units until the
convention appears, at this moment, h
problematical.

* * * *

The next two stories present dire
the views of leaders of opposing facti
within the ESA. The first was publis
originally in the "EXPONENT," ho
organ of the Association of Professi
Engineering Personnel at RCA.

ESA Constitutional Changes

"It has long been the feeling of the p
fessional people represented by AP
that ESA should progress in the direct
of greater professionalism if we are
maintain the distinctiveness and uniq
ness for which ESA was founded.
two types of units that have made
ESA since its founding in 1953 have
hausted their energies and finances
their initiative in a continuing strug
for dominance. This has not been g
for ESA, nor has it furthered the acce
ance of engineering collective bargain
units in the eyes of the public.

"Realizing this, the Association s
mitted to the 1956 ESA National C
vention constitutional changes designe
orient the direction in which ESA is

Just Published!

ELECTRONIC ENGINEERING

By Samuel Seely
Professor and Chairman,
Department
of Electrical Engineering,
Syracuse University

525 pp. 6x9 illustrated $8.00

detailed discussion of a large variety of elec-
ic circuits which are important in such diverse
ds as radar, television, electronic control and
rumentation, and computers.

he book begins with a general introduction to
es and tube circuit principles, and then proceeds
a detailed consideration of the more important
tron tube circuits.

mphasis is placed on the physical and mathe-
ical analyses.

rof. Seely's book will help the reader develop a
d understanding of the techniques of analysis,
special features of the many circuits examined,
the means for combining circuits of different
s in order to achieve required operational re-
s.

Order your copy today
.E. Book Department, 8 So. Michigan Ave.
CHICAGO 3, ILLINOIS

. These changes would require that
units affiliating with ESA be purely
ssional in certification and character.
the same time, through by-laws
ges, we would have created a grand-
r clause which would allow those
ogeneous units which are already
ers to remain affiliated with ESA.
nfortunately, for the philosophy as
plified by APEP, the required two-
majority was not obtained. The
tutional amendments were defeated.
y-laws change restricting the make
existing units was referred to the
tive Committee for study. As a
of this political byplay, ESA re-
the schism and disunity so apparent
its formation.

e ESA Executive Committee was
fled, however, and the profes-
ly-minded organizations were able
ain a majority of the positions. It
e hoped and very strongly desired
he inadequacies and ineptness of
us years of ESA leadership are a
of the past."

* * * *

account of the 1956 ESA convention is by Everett Taft,* once president of the Sperry Engineers Association (much quoted in this article) and now president of the Minneapolis Federation of Honeywell Engineers. The story appeared in the June 1956 issue of the MFHE "Federation Reporter."

SNOBBERY AS A PRINCIPLE

A snob is one who repels the advance of those whom he regards as his inferiors; he is conscious of superiority. He is inclined toward exclusiveness.

The "pure professional" ideology, recently dominant in ESA councils, demands that there shall be no further advance of members regarded as inferior. Its proponents, visibly conscious of their own superiority, are inclined toward exclusiveness.

The destruction of mutuality as a guiding principle may be anticipated in those units which are now espousing the "pure" ideology. Mutuality will be replaced by snobbery elevated to a principle.

This new principle will place greater emphasis on subjective, emotional projects at the expense of practical achievements. It will try to feed appetites which, like neurotic cravings, will not find satisfaction in any victory.

The drive of the "purists" against the AFL-CIO merger idea at this year's ESA Convention was a case in point. The defeat of the merger idea was decisive enough, with 46 votes against, and only 4 votes for (there were 5 abstentions), but this was not enough to satisfy the principle of snobbery. An additional motion was passed "to publicly renounce any interest of ESA in affiliating with AFL-CIO." This was passed in the spirit of an ancient court which insisted on a death sentence despite suicide of the victim.

I suppose that a rational motive can be constructed for this sort of behavior—perhaps, it is intended to so offend AFL-CIO that the next time an ESA affiliate approaches any portion of the labor movement it will be rebuffed.

ESA's "pure professionals" should note that there are those too good for ESA, as well as those not good enough. Of the many General Electric Sounding-Board Groups, the Association of Engineers and Engineering Assistants (at the G.E. Philadelphia Works) is the only one which has made the leap and obtained a collective bargaining franchise. You might think that this would make us brothers of a sort, but apparently not. I quote from the May issue of the AEEA "Switchgear Engineer":

---

*This is the same Mr. Taft (not to be confused with John Taft, former vice president of ESA) who headed the Engineers Association at Sperry and who is now the full-time, paid head of Minneapolis Federation of Honeywell Engineers. This column represents his reaction to the ESA 1956 Convention. Following that convention the organization he heads first voted to withdraw from ESA and join AFL-CIO, then reconsidered.

"We learned that ESA has circulated a letter to college students indicating that some General Electric engineers 'enjoy the economic and professional advantages of collective bargaining' and that 'ESA is the national organization for these employee groups'. Since the Switchgear engineers are the only ones in General Electric certified for collective bargaining, ESA obviously refers to the AEEA. A motion was made and seconded that a letter be outlined to be written by a lawyer and sent to ESA deploring this attempt to associate General Electric Engineers with ESA and demanding that a retraction be sent to all who received this incorrect information. The motion was carried unanimously.

In an organization dedicated to the principle of exclusiveness, one can never tell when a new, "super-exclusive" fragment (like a radioactive particle) is going to fly off into a higher orbit. Another organization possessing a collective bargaining franchise but, as yet, too "pure" to associate with ESA, is REPEA, representative of professional employees of the Standard Oil Company of Indiana. For several years the REPEA leadership has endeavored to sell its rank and file on ESA affiliation. Each year, however, they look us over and conclude "not good enough."

This year the REPEA leaders, apparently, see new hope in reporting the ESA Convention in the "REPEA Bulletin":

"The results of the election to the Executive Committee of ESA show that ESA will concentrate on the organization of homogeneous units. All new units will most likely represent no sub-professionals. In existing units only the professional portion of the unit will vote on ESA policies."

This REPEA view of the status of the "sub-professionals," now paying dues and giving moral support to ESA, is, of course, factually in error. But it is remarkably close to the spiritual truth. The present ESA leadership derives its commands and support from three or four large units which have embarked on programs denying, disowning, disenfranchising, and subordinating their sub-professional elements.

It is no accident that the cult of purity is fanatic. There is an element of conscience here. A group (the Professional Engineers of Industry), which succeeded in getting Congress to write special protection into the nation's labor law for itself as a minority, is now on the verge of denying protection to the minority, whose rights have been, in turn, entrusted to it.

The National Labor Relations Act was written to give labor equality of bargaining power with capital. To make a reality of this abstraction, it was necessary to crystallize the concept of the "appropriate bargaining unit." Its essence was, and remains, the "community of economic interest" among all the workers of a unit. To encourage, even to allow, endless fractionation along lines of pride and prejudice would pervert the
Congress's grant of power, and it wo
frustrate the basic purposes of the Ac

The elevation of snobbery to a princ
is not a protected activity. It is also
compatible with honest collective bargaini
It will neither impress our antagonists
elicit sympathy among our potential frie
Engineers can do better.

(To be continued in the next issue.)

Desire for Professional Recognition,
fair Labor Practice Charges, and What
Engineers Bargaining For? will be
cussed, for the information of Engine
Engineering Executives and Engineer
Societies.

L. J. Conklin Drowned;

Sister Paid $1875. AAE Insuran

Last September Lloyd J. Conklin, S
nyside, Wash., and three of his brot
had arranged a three-day reunion vaca
and had come together for the first
in twenty years. They apparently
been fishing the previous day in ano
location and arranged the fishing tri
O'Sullivan's Dam Reservoir for Sep
ber 8th, fishing from early aftern
until evening. When they were prepa
to leave, one of the brothers was un
to pull up the anchor and Lloyd cam
his assistance. Both brothers gav
strong tug on the rope and the an
came up rapidly throwing them off
ance and capsizing the boat. Two of
brothers clung to the capsized boat w
Lloyd and Rube attempted to swim to
shore about 200 yards away but
drowned apparently only going about
yards.

Lloyd had been a member of the Am
can Association of Engineers since
gust 1925, and since he held a Class
Certificate of Insurance, under the A
ciation's group policy, and had kept
membership in good standing continu
ly, the General Accident Fire and
Assurance Corporation, approved
paid the claim for the principal sum
$1500, plus accumulations of $375, a t
of $1875.00 to his beneficiary, his sis
Evelyn B. Otis.

OOKS BY PHILOSOPHICAL IBRARY OF INTEREST TO GINEERS, SCIENTISTS AND TECHNICIANS

ics and Building: E. F. Mactag-
·t, B.Sc., A.R.C.S., and H. H. Cham-
·s, Ph.D., A.R.C.S., D.I.C. $12.00

voted to the chemistry, manufacture
ıses of Plastics, with emphasis on
application in the building and
l industries. Interesting light is
vn on the recent developments and
e trends of the Plastics industry,
ɔn the economies of the use of these
ances. Illustrated with colored
ɔgraphs and with Isotype charts
h give the reader a rapid under-
ling of the salient features, and also
the suitability of the various
ics for different applications.

**aulic & Pneumatic Operation of
chines:** H. C. Town, I. Mech. E.
roduction by J. E. Hill, M.I. Prod.
$7.50

e author intended his book to pro-
practical information on the sub-
he concerns himself with general
eering applications, mainly those
ıich oil is used, as in hydrostatic
ns, for transmitting force by pres-
This is truly a handbook on the
f oil or compressed air for driving
ontrolling machines and vehicles.

Turbines and Jet Propulsion: G.
ffrey Smith, M.B.E., 6th ed. re-
d by F. C. Sheffield. $15.00

s book has been generally recog-
as the standard work in its field
it was first published in 1942, when
opulsion seemed more or less an
bable prospect. The book explains
rinciples and history of jet pro-
n, and deals with its main tech-
aspects. Various types of British,
can, Canadian and European air-
gas turbines available or under
pment are surveyed.

**ean Architecture in the 20th Cen-
, 1924-1933:** Arnold Whittick. Vol.
art III. $10.00.

The author discusses European developments since the late 18th century, allowing his treatment to become more detailed as the year 1914 is approached. From that date on the tendency of aesthetic, social and technical significance is discussed. The third volume will deal with the years 1933 to 1950. A good architectural reference work.

Surveying, Modern, for Civil Engineers: Harold Frank Birchal, O.B.E., D.F.C., late Chief Construction Engr. to the Kenya and Uganda Railways. 2nd ed. $15.00

Devoted to the practice of surveying, estimating and setting out works of all kinds including chapters on modern photographic and aerial surveying as applied to engineering enterprises. Revised and brought up to date by the inclusion of descriptions and illustrations of the newer instruments and methods now available to the surveyor. Such modern methods as photographic and aerial surveys are dealt with in detail.

Designing for Industry: F. C. Ashford, M.S.I.A. $7.50

During the war, the author was engaged in experimental design and development in the Royal Navy, and since then has been a director of Scott-Ashford Associates, Ltd. Everyone concerned with the design and development of products will find this book gives a rather complete picture of the business.

Magnetic Materials in the Electrical Industry: P. R. Bardell, B.Sc., M.I.E.E. $10.00

A book that should be of value to students, teachers and all those engaged in research or manufacture in any of the many industries concerned with magnetism and magnetic materials. Intended especially for Senior students in physics and electrical engineering and to physicists and engineers in industry.

Atomic Energy Research at Harwell: K. E. B. Jay. $4.75

This book from the United Kingdom Atomic Energy Authority carries forward the story of the Atomic Energy Research Establishment from the point at which it was left in their last book up to August, 1954.

Principles of Mass and Flow Production: Frank G. Woollard, M.B.E., M.I.M.E. $7.50

Flow production is frequently thought of as being suitable only for large and highly organized enterprises. However the author stresses in this book, that its methods can be applied with the same benefits to small quantities in small firms, and furthermore that large capital is not essential to their introduction. The book also deals with some of the practical problems arising from the onward march of automation.

Press Tool Design, Fundamentals of: W. F. Walker, A.M.I. Prod. E. $4.75

The author, who has had many years' experience in the press tool industry, has endeavored in his book to identify and explain the fundamental requirements, which must be known and understood for each different press operation, so that tools efficient and economic in operation can be designed. Valuable information is provided on the different tool materials suitable for the varying types of press tools.

Laplace Transforms for Electrical Engineers: B. J. Starkey, Dipl. Ing., A.M.I.E.E. London. $10.00

The method of solving linear differential equations originally published by Laplace has been in use by mathematicians for many years, but only in recent years have engineers begun to realize its usefulness to them. It is helpful in providing quick solutions to engineering and physical problems. The author hopes that his book will be of value to the electrical engineer.

Soil Warming by Electricity: R
Coombes. $4.75

A valuable book on soil warming.
book provides information on the
stallation of soil warming equipn
financial aspect, etc., and lists c
which are benefited, the selectio
seeds or plants, the preparation o
soil and the installation of cables.

Metallurgical Progress: A second s
of Critical Reviews. $6.00

This volume contains the essenc
30 years' research work in the fiel
Preparation of Ores, Electric Stee
duction, and Non-metallic Inclus
The time-consuming job of "searc
the literature" is avoided by th
search worker who has a copy o
book.

Architects' Detail Sheets: 96 Se
Sheets, Second Series. Edited b
ward D. Mills, F.R.I.B.A. $12.0

The series of architects' details
lished regularly in "The Architect
Building News" has long been po
among architects, students, bui
craftsmen and others concerned
the design and construction of con
porary buildings. In 1952, volume
peared. Vol. 2 shows how presen
architects have combined good cons
tion and satisfactory appearanc
buildings of various kinds. Details
been drawn from many countries,
the work of nearly 70 designers is r
sented.

Electro-Technology: M. G. Say, P
M.Sc., M.I.E.E. $6.00

This book presents in concent
form the electro-technical basis o
phenomena which are important in
and heavy electrical engineering.
rationalized m.k.s. system of uni
used throughout. A useful textboo
students and a reference book for
ticing engineers in all branches o
electrical industry.

TANCE OF MATERIALS, 4th Ed.

By Fred B. Seely and James O. Smith, both of the University of Illinois. A major revision of an outstanding work in the field which emphasizes the solution of real engineering problems. 1956. 480 pages. $6.50.

L PROBLEMS IN ENGINEERING

By Melvin Nord, formerly of Wayne University. A guide to engineering law which eliminates legal jargon, puts the case into problem form, and saves essential time and labor. 1956. 391 pages. $7.50.

CULAR FLOW OF GASES

By G. N. Patterson, University of Toronto. A new approach to fluid mechanics based on the molecular concept of a gas with material extending from the mechanics of rarefied gases to the relaxation effects associated with strong shock waves. 1956. 217 pages. $7.50.

R SYSTEM STABILITY, Vol. III

chronous Machines

By Edward W. Kimbark, Seattle University. Provides an up-to-date presentation of the theory of synchronous machines and their excitation systems. Concentrates on such effects as saliency, damping, saturation, and high-speed excitation. 1956. Approx. 344 pages. Prob. $10.50. VOLUME II—1950. 280 pages. $9.50. VOLUME I—1948. 355 pages. $9.50.

ITECTURAL CONSTRUCTION, 2nd Ed.

Choice of Structural Design

By Theodore Crane, Yale University. Offers a comprehensive view of the more useful types of construction and the newer features of building design available today in the United States. 1956. 433 pages. $10.00.

ED ELECTRICAL MEASUREMENTS

By Isaac Fern Kinnard, General Electric Co. Covers the theory of measurements, the measurements of electrical quantities and the measurements of non-electrical quantities with electrical means. One of a series written by G. E. authors for the advancement of engineering practice. 1956. Approx. 594 pages. Prob. $15.00.

NALYSIS OF STRUCTURES

By N. J. Hoff, Polytechnic Institute of Brooklyn. Presents structural analysis as a logical and unified theory based on a small number of first assumptions. Includes a detailed explanation of all equations and steps of development. 1956. 493 pages. $9.50.

By:

. E. BOOK DEPT., 8 S. Michigan Ave., Chicago 3, Ill.

Win your Professional Engineer's license FASTER

with this complete refresher for P.E. examinations!

Here's an authoritative guide to help you prepare to pass licensing examinations in the proved rapid, easy manner. Questions and answers prepared by an examination expert shows exactly the type of questions you will be asked—readily show the areas where you can improve your knowledge—*before you find yourself in the examination room.*

You get over 500 questions selected from actual examinations for the Professional Engineer License, Land Surveyor License, and Engineer - in - Training Certific

For every question there is a tailed answer of the type exami accept and credit.

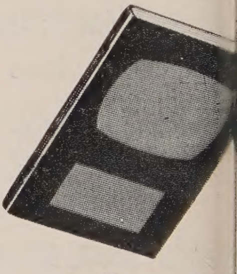
Representative of the examinat being given now in all states, t questions cover mechanical, ele cal, civil, and chemical engineer and include engineering econo and land surveying.

PROFESSIONAL ENGINEER'S

EXAMINATION QUESTIONS AND ANSWERS

By WILLIAM S. LA LONDE, Jr.

Licensed Professional Engineer; Chairman, Department of Civil Engineering, Newark College of Engineering



462 pages, 5½x
215 illustrations,

The solutions to all of these problems will serve you as a guide for the clarity expected when you are working on your particular examination. Thus, these solutions will help you not only check your knowledge but show you how to state your answers so the examiner can follow the solution and accept it as correct

Experience has proved that some of the best preparation for license examinations is the working of a number of typical problems. With the help of this book you get that effective preparation—no matter what your field of engineering is, or in *what part of the country you take your examination.*

CONTENTS

How to Use This Bo
Legal Registration
A Model Law—Definiti
Suggested Experience
Qualification Guide
Addresses of Registra
Boards

QUESTIONS FROM P
EXAMINATIONS ON

- Basic Fundamenta
- Chemistry, Science,
  Materials
- Electricity
- Hydraulics
- Mathematics and
  Measurements
- Mechanics
- Thermodynamics
- Chemical Eng'g.
- Civil Eng'g.
- Electrical Eng'g.
- Engineering Econo
  and Business Relati
- Mechanical Eng'g.
- Structural Eng'g.
- Land Surveying

ANSWERS
TO QUESTIONS

Send for your copy today

A.A.E. BOOK DEPARTMENT

8 S. Michigan Ave. **Chicago 3, Ill.**